

Travel Behavior Surveys in the Information Age

For metropolitan region transportation planning purposes, it has been customary to compile a database of current personal travel by collecting detailed information about the relevant movements of all members of a representative sample of households. The methods used to build such a database have been reviewed in NCHRP Synthesis 236, *Methods for Household Travel Surveys*, 1996.

A strong interest in travel patterns is shared by (for example) public financing, planning, and management agencies, operators of public transportation services, vehicle manufacturers, airport authorities, and many other public and private sector interests. Travel behavior information is frequently needed for such diverse policy issues as facility and service design, technology assessment, operational test evaluations, pricing levels and structures, revenue collection, ticket distribution, marketing, and customer satisfaction monitoring. Moreover, the current emphasis on *Intelligent Transportation Systems* has created a need to better understand the relationship between travel behaviors and the provision of traveler information, and the substitutability of personal travel and other forms of communications.

The Household Travel Survey is the lynchpin of our understanding of travel behavior. However, the high demand for information about travel requires a wider suite of survey techniques. Some surveys use larger or smaller geographic units, for example; others may focus on just certain types of travel (by corridor, mode, or carrier, for instance); or yet others may focus on just particular behaviors (such as ticket choice and acquisition). In some surveys, the household may be the most appropriate consumer unit, while in others it may be the individual traveler, or employers, or persons traveling to a specific facility. Cost-effective sampling designs may include *en route* or "at destination" intercept methods, workplace-based samples, RDD telephone samples, the use of established consumer panels, and other methods. Appropriate data collection methods may include self-completion questionnaires and diaries, in-person or telephone interviews, CAPI, CATI, Internet-based surveys, or qualitative methods (such as focus groups or intensive semi-structured one-on-one interviews). And as well as asking about current or past *behaviors*, the surveys may gather *stated preference/opinion* information designed to infer underlying consumer values from simulated market choice situations.

Not surprisingly, the growing demands for information from about traveler behavior can translate into quite disparate implications for the design of these other types of travel behavior surveys. The proposed Synthesis would be designed to review current *best practices* in surveys used in collecting a range of travel behavior, establishment surveys, roadside intercept, on-board transit, and other types of collection of travel information, as a companion volume to the more narrowly focused NCHRP Synthesis 236. The target audience will be people involved in commissioning and designing such surveys, to help them understand the pros and cons of various feasible methodological approaches, the tailoring of methods to objectives and budgets, and the tradeoffs involved in planning and undertaking the survey work.

Using Internet for Conducting Travel Surveys

Although the Internet is quickly becoming a fixture in most American homes and in American businesses, there has been little work conducted by or for local or federal government on using the Internet for collecting travel behavior data and attitudes about travel and daily activities. On the other hand, the private sector has used the Internet to collect much information on consumers and potential consumers for their products. Many employers now use Internet surveys to poll their employees, not just their customers.

Although the Internet market is currently biased toward younger households, and upper middle and upper income households, and biased against households with people of color and lower incomes, the transportation profession needs to learn to use this tool to our advantage. Especially with declining response rates to telephone surveys, we need to use alternative methods to enable people to more easily participate in these data collection efforts.

This project will synthesize the work previously conducted using Internet for travel behavior studies, including work done on congestion avoidance in San Antonio by Texas Transportation Institute, long distance travel surveys done for the Technologies for European Surveys of Travel Behavior (TEST) project, variable pricing on the Tappan Zee Bridge in New York, and tests conducted by the U.S. Census Bureau on the 2000 decennial census. This project will also synthesize non-governmental surveys conducted via Internet, for example, preferences for vehicle attributes conducted by automobile manufacturers.

The synthesis will include a description of survey purposes, questionnaire design concepts (how many questions per page, advancing to subsequent questions, reviewing/changing answers before completion/submittal), use of graphic elements to improve response, types of question formats that work effectively on Internet (e.g. scales, binary (y/n), open-ended, multiple choice), how the use of Internet tools (drop down boxes, button bars, scroll bars) can be used effectively, and survey length (number of questions, time to complete).